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the 'Occurrence of the Western Evening Grosbeak (*Coccothraustes vespertinus montanus*) in Las Vegas,' and exhibited specimens of the birds. These birds had never been seen in Las Vegas, until about October 30th last, when they suddenly appeared in great numbers. They had remained in the town until the present month; Mr. R. H. Powell remarked that he had seen them as recently as April 7th. Mr. Frank Springer stated that he had observed them in Santa Fé during February. Mr. E. L. Hewett exhibited a curiously twisted stone spear-head which had been found at Chapelle, N. M. It was evidently designed to twist in the wound, and was unique among the spear-heads collected in New Mexico. Mr. Hewett also called attention to a triskelion (three-leg) design which he had seen on a piece of ancient pottery from Arizona. He also showed some of the vessels from the burial mounds of the Pajarito district, N. M., in which the same design occurred, but modified, so that what appeared to be hands, with claw-like fingers, took the place of feet.

T. D. A. C.

#### DISCUSSION AND CORRESPONDENCE.

##### PRIORITY OF PLACE AND THE METHOD OF TYPES.

IN SCIENCE for April 12, 1901, Professor N. L. Britton has given an adequate explanation and justification for the rule of nomenclature which accepts precedence of page or position as a substitute for priority in time in determining which of two or more simultaneously published synonyms shall receive permanent recognition. It is further held that the proposed use of the first species as the type of its genus is simply an extreme extension of the idea of priority of place, and all reference to the method of types as a means of securing stability in the application of generic names is omitted.

In reality the priority or precedence analogy of the method of types is quite incidental to the main argument, and has been brought forward only because it seemed likely to influence favorably those who have been zealous in advocating 'page priority.' Professor Britton very properly maintains that there is an important logical distinction between the two propositions, but he does not bring out the facts that while pre-

cedence priority is a small matter, affecting a few isolated instances, stability in the use of generic names is of universal taxonomic importance, and that the method of types\* still remains the only suggested means of obtaining it. Page priority is not particularly just or reasonable, since an author's last treatment of a genus or species is likely, on the whole, to be better than the first, and a rule to take the last of the synonyms appearing in the same book would be quite as definite and as readily applicable as one requiring the use of the first. But such a policy would not be in accord with the principle of priority, and it accordingly received but little consideration when the formulation of a definite rule was undertaken. With the method of types, also, the desideratum is a uniform rule, but thus far those who object to the use of the first species have not proposed to use the last species, or any other species in particular, doubtless because they still fail to realize the taxonomic bearing of the fact that under an evolutionary view of nature a genus is no longer to be treated as a concept† or a definition, but as a group of species.

The reasons for selecting the first species as the nomenclatorial type of a genus are quite as good, to say the least, as those for accepting the first name in a book, but they appear trivial when compared with those which require the taking of *some* species as the type, and that by a definite rule of uniform application. Accordingly, it is scarcely pertinent to bring merely nomenclatorial or historical objections against the proposition to use the first species as the type, until it can be shown that the general systematic and taxonomic requirements met by the method of types can be accommodated by the use of some other than the first species.

Professor Britton's further objection to the use of the first species, that 'it would render useless for nomenclatorial purposes much original investigation through which genera have been definitely established,' must be seriously discounted, to say the least, in view of the fact that the 'original investigation' has been conducted, either without any uniform plan, or

\* SCIENCE, September 28, 1900, XI., 476.

† SCIENCE, October 14, 1898, VIII., 513.

under one incapable of producing the desired uniformity. If we may trust President Jordan's frank statement of the results of his extensive experience with the method advocated by Professor Britton, "The process of elimination has never been consistently followed, nor can the process be so defined that it can yield fixed results in the case of the complex genera of the last century."\*

Instead of supplying an argument for continuing longer on the same lines, the variety and instability inevitable under the method of elimination afford an excellent reason for seeking a more satisfactory rule of procedure. And to obtain this it is not, as Professor Britton seems to imply, necessary that 'historical types' or the expressed wishes of the authors of genera shall be disregarded. Those who are interested in the possibility of such improvements should, however, consider the several steps in the order of their importance and cease to make confusion between the taxonomic principles and the merely nomenclatorial incidents of the process.

The first essential of systematic biology is a convenient and stable taxonomy.

A satisfactory degree of convenience was attained over a century ago by the adoption of the binomial system, involving the joint recognition of generic and specific names.

Stability can be secured by the uniform use of the oldest names applied under the binomial system of nomenclature.

Generic and specific names have nomenclatorial standing when they have been used as parts of binomials.

Priority requires that a species shall bear the oldest name applied to it, and, conversely, that a specific name shall be used only for the first species to which it was applied.

Effective priority or stability in the application of a generic name can be attained by restricting its use to the congeners of the first species to which it was applied as part of a binomial.

All such principles and methods have, however, their logical and practical limitations and exceptions, but it is quite illogical and impractical to ignore or set aside a more important for

\* SCIENCE, November 23, 1900, XII., 786.

a less important consideration. It is essential that we have, some one species permanently designated as the nomenclatorial type of each genus, but it is not essential that it be the first species, and there are good reasons for admitting two exceptions, not of the method of types, but of this suggestion for its nomenclatorial application.

*Exception 1.*—Describers of genera may designate their type species in the papers in which their generic names are published.

*Exception 2.*—Generic names adopted into binomial nomenclature from older writings should be used in their original application. It is not, however, desirable or expedient that such restorations be carried in botanical literature farther back than Tournefort's 'Institutiones' (1700).

The first provision enables us to conserve such parts of systematic literature as can be readily adjusted to present ideals and methods, while the second avoids too abrupt a break between the binomial and the prebinomial literature of botany, and at the same time obviates the principal objection to 1753 as the initial date for botanical nomenclature.

Until an equally practicable alternative proposition is brought forward, the use of the first species as generic type should receive the support due to the idea of stability in biological taxonomy, whether the above exceptions be admitted or not. The exceptions do not, however, militate in any sense against the principles involved, and will but slightly increase the labor of applying the method of types. It is accordingly to be hoped that they will be deemed a sufficient concession by those who have approached biological studies from the traditional and historical standpoints, but who are still able to realize the difference between a rule of nomenclature and a primary requisite of biological taxonomy.

O. F. COOK.

WASHINGTON, D. C., April 15, 1901.

#### THE PROPER NAME OF THE ALPINE CHOUGH.

TO THE EDITOR OF SCIENCE: My suggestion in a recent number of SCIENCE (N. S. Vol. XIII., p. 232) that the name of the alpine chough should stand as *Monedula pyrrhocorax* L. (Hass),